

Listing of Claims:

1-71. (canceled)

72. (previously presented) A conjugate comprising a synthetic polymer carrier comprising a minimum of 5 and a maximum of 100 monomeric units, the monomeric units comprising amino acids, the conjugate comprising 1-10 hapten molecules and 1-10 marker groups or solid phase binding groups, wherein the hapten molecules and the marker groups or solid phase binding groups are coupled to reactive side groups at predetermined positions on the polymeric carrier, such that distances between the hapten molecules and the marker groups or solid phase binding groups are defined thereby, and wherein the reactive side groups are amino groups and/or thiol groups.

73. (previously amended) The conjugate as claimed in claim 72, wherein the marker groups comprise luminescent metal chelates.

74. (previously amended) The conjugate as claimed in claim 72, wherein the polymeric carrier has 5-80 monomeric units.

75. (previously presented) The conjugate as claimed in claim 72, wherein the polymeric carrier has 5-60 monomeric units.

76. (previously presented) The conjugate as claimed in claim 72, wherein the conjugate contains 1-6 hapten molecules.

77. (previously presented) The conjugate as claimed in claim 72, wherein the conjugate contains 2-8 marker groups or solid phase binding groups.

78-80. (canceled)

81. (previously amended) The conjugate as claimed in claim 72, wherein the conjugate comprises marker groups selected from the group consisting of luminescent metal chelates, fluorescent groups, and a combination thereof.

82. (withdrawn) The conjugate as claimed in claim 72, wherein the conjugate contains solid phase binding groups which are selected from the group consisting of biotin and biotin analogues.

83. (previously amended) The conjugate as claimed in claim 72, wherein the polymeric carrier contains a charged group selected from the group consisting of positively charged groups and negatively charged groups.

84. (previously amended) The conjugate as claimed in claim 81, wherein the marker groups are luminescent metal chelates and the polymeric carrier contains a charged group selected from the group consisting of positively charged groups and negatively charged groups.

85. (previously amended) The conjugate as claimed in claim 81, wherein the marker groups are fluorescent groups.

86. (previously presented) The conjugate as claimed in claim 72, wherein each of the hapten molecules is an immunologically reactive molecule having a molecular mass of 100-2000 Daltons.

87. (previously amended) The conjugate as claimed in claim 86, wherein the hapten molecules are selected from the group consisting of pharmacologically active substances, hormones, vitamins and neurotransmitters.

88. (previously presented) The conjugate as claimed in claim 72, wherein the hapten molecules are immunologically reactive peptide epitopes having a length of up to 30 amino acids.

89. (withdrawn) The conjugate as claimed in claim 72, wherein the hapten molecules are nucleic acids having a length of up to 50 nucleotides.

90-99. (canceled)

100. (previously presented) A conjugate comprising a synthetic polymeric carrier comprising a minimum of 5 and a maximum of 100 monomeric units, the monomeric units comprising amino acids, the conjugate comprising 2-10 hapten molecules and 1-10 marker groups or solid phase binding groups, wherein the hapten molecules and the marker groups or solid phase binding groups are coupled to reactive side groups at predetermined positions on the polymeric carrier, such that distances between the hapten molecules and the marker groups or solid phase binding groups are defined thereby, and wherein the reactive side groups are amino groups and/or thiol groups.

101-106. (canceled)

107. (previously presented) The conjugate of claim 72, wherein the side groups through which the hapten molecules and the marker groups or the solid phase binding groups are bound to the carrier are either amino groups or thiol groups.

108. (previously presented) The conjugate of claim 72, wherein at least a portion of the amino acids comprises artificial amino acids.

109. (previously presented) The conjugate of claim 108, wherein the artificial amino acids comprise β -alanine, γ -amino-butyric acid, ϵ -amino-caproic acid, norleucine, ornithine, and combinations thereof.

110. (previously presented) The conjugate of claim 72, wherein the carrier is non-immunologically reactive.

111. (previously presented) The conjugate of claim 72, wherein the amino groups are primary amino groups.

112. (previously presented) The conjugate of claim 72, wherein the hapten molecules are selected from the group consisting of antibiotics, opiates, amphetamines, barbiturates, cytostatic agents, paracetamol, salicylates, phenytoin, quinine, quinine derivatives, theophyllin, hormones, metabolites, bile acids, sexual hormones, corticoids, cardenolides, cardenolide-glycosides, steroid-sapogenines, steroid alkaloids, peptide hormones, creatinine, thyroid hormones, neurotransmitters, vitamins, mediators, and combinations thereof.

113. (previously presented) The conjugate of claim 112, wherein the cytostatic agents are selected from the group consisting of gentamicin, tobramycin, vancomycin, and combinations thereof; wherein the hormones are sterols; wherein the sexual hormones are selected from the group consisting of estradiol, estriol, testosterone, progesterone, pregnenolone, estradiol derivatives, estriol derivatives, testosterone derivatives, progesterone derivatives, pregnenolone derivatives, and combinations thereof; wherein the corticoids are selected from the group consisting of cortisol, corticosterone, cortisone, cortisol derivatives, corticosterone derivatives, cortisone derivatives, and combinations thereof; wherein the cardenolide-glycosides are selected from the group consisting of digoxin, digoxigenin, strophanthin, bufadienolides, and combinations thereof; wherein the thyroid hormones are selected from the group consisting of T₃, T₄, and a combination thereof; wherein the neurotransmitters are selected from the group consisting of serotonin, choline, γ -aminobutyric acid, and combinations thereof; and wherein the mediators are selected from the group consisting of prostaglandins, leucotrienes, leucoendiines, thromboxanes, and combinations thereof.

114. (previously presented) The conjugate of claim 88, wherein the immunologically reactive peptide epitopes having a length of up to 30 amino acids are derived from (a) a pathogenic organism selected from the group consisting of bacteria, viruses, protozoa, and combinations thereof; or (b) autoimmune antigens.

115. (previously presented) The conjugate of claim 114, wherein the immunologically reactive peptide epitopes having a length of up to 30 amino acids are derived from a viral antigen selected from the group consisting of the amino acid sequence of HIV I, the amino acid sequence of HIV II, the hepatitis C virus, and combinations thereof.

116. (new) A conjugate comprising,
a synthetic polymeric carrier linked to a polypeptide with a linear backbone comprising a minimum of 5 and a maximum of 100 amino acids, comprising amino acids with reactive side chain group which are amino groups, thiol groups or mixtures thereof;

where 1 to 10 of the reactive side chains are covalently bound to hapten molecules; and

an additional 1 to 10 of the reactive side chains are covalently bound to marker groups or solid phase binding groups;

such that the hapten molecules are separated from the marker groups or solid phase binding groups by a defined and reproducible distance.